

logged, so far as such a ship could be; and these being not nominal divisions, but complete substantial bulk-heads, water-tight, and of strength sufficient to bear the pressure of the water, should a compartment be even filled with water, so that if the ship were supposed to be cut in two, the separate portions would float, and no damage, however great, to the ship's bottom, in one or even two of these compartments, would endanger the floating of the whole, or even damage the cargo in the rest of the ship, or above the main-decks of the compartment in question; and all damageable cargo would be stowed above that deck. Besides these principal bulk-heads, there is in each compartment a second intermediate bulk-head, forming a coal bunker and carried up to the main-deck, which can on an emergency also be closed. There are no openings under the deep water line through the principal bulk-heads, except one continuous gallery or pipe near the water line through which the steam pipes pass, and which will be so constructed as to remain closed, the opening being the exception, and the closing again being easy; and the height being such, that under the most improbable circumstances of damage to the ship, ample time would be afforded to close it leisurely, and to make it perfectly water-tight. I have also adopted the system, to be followed rigidly, and without exception, of making no openings whatever, even by pipes and cocks, through the ships's bottom, or through the inner skin below the water-line, and I attach much importance to this system.

In the majority of cases in which steam vessels are compelled to put into port from failure of bilge-pumps and other really trifling defects, no such serious consequences would have resulted, but from the difficulty and almost impossibility of remedying at sea any defects in the numerous pipes and openings now carried through the ship's bottom wherever convenient, and without much regard to the danger of doing so.

I have found no great difficulty in carrying out this system completely; and the advantages, both as regards safety and the facility of remedying defects, without occasioning delay on the voyage, must be obvious.

It is an interesting study to observe the progress of steam navigation during the past twenty years. We were content then with small steamers to convey us to Ireland or Scotland. Then we got to the Great Western, and other vessels, to communicate with New York. Then we got the best managed, best manned, and most successful line of ocean steamers afloat, the Cunarders. Then we came to the greater magnitude of the Great Britain and the Himalaya. And now we have another rapid stride in the Great Eastern. Whatever may be her result as to her owners, is not our province to anticipate, but we say, with confidence, she is the wonder of the day, and she will, in all probability, revolutionize ocean steam navigation.—
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